

The regulations of Connecticut State Agencies are amended by adding section 22a-153-9, as follows:

(NEW)

Sec. 22a-153-9. Decommissioning

(a) Definitions. For the purposes of this section:

(1) "Critical group" means the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances.

(2) "Decommission" means to remove safely from service and reduce residual radioactivity to a level that permits (1) release of the property for unrestricted use and termination of the license or (2) release of the property under restricted conditions and termination of the license.

(3) "Decommissioning plan" means a written document that includes the licensee's planned procedures and activities for decommissioning of the facility or site.

(4) "Distinguishable from background" means that the detectable concentration of a radionuclide is statistically different from the background concentration of that radionuclide in the vicinity of the site or, in the case of structures, in similar materials using adequate measurement technology, survey, and statistical techniques.

(5) "Facility" means the location within one building, vehicle, or under one roof and under the same administrative control (1) at which the possession, use, processing or storage of radioactive material is or was authorized or (2) at which one or more radiation-producing machines or radioactivity-inducing machines are installed or located. "Facility" may also mean multiple such locations at a site or part of a site.

(6) "Final radiation survey" means the survey of the facility or site after decommissioning activities have been completed during which the determination is made by the licensee that the facility or site meets the Department's release criteria.

(7) "Licensee" means any person who is licensed by the Department. For purposes of this section, the term "Licensee" also means any person who is responsible for decommissioning by being registered with the Department, being subject to a record of possession of a radiation source or device or being otherwise legally obligated to conduct decommissioning activities in accordance with these regulations.

(8) "Principal activity" means an activity authorized by the license which is essential to achieving the purpose(s) for which the license was issued or amended. Storage during which no licensed material is accessed for use or disposal and activity incidental to decontamination or decommissioning are not principal activities.

(9) "Residual radioactivity" means radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the license's control. This includes radioactivity from all

licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site.

(10) "Restricted use" means that a limit or control has been placed on future use of the facility and the facility is no longer under the control of the licensee, registrant, or holder of the record of possession.

(11) "Site" means the area contained within the boundary of a location under the control of persons generating or storing radioactive materials.

(12) "Unrestricted use" means that the facility or area may be used by individuals for any purpose without limits or controls. The facility or area is no longer under the control of the licensee, registrant, or holder of the record of possession.

(b) Decommissioning Timeliness.

(1) Each licensee or person in possession of a non-exempt source of radiation who decides to terminate all activities involving that source of radiation shall notify the Department immediately, in writing.

(2) Each licensee or person responsible for a facility or site which includes a non-exempt source of radiation or which may be contaminated by residual radioactivity shall, no less than 30 days before vacating or relinquishing possession or control of the facility or site, notify the Department in writing of the intent to vacate.

(3) The licensee shall notify the Department in writing within 60 days of the occurrence of any of the following:

- (A) The licensee has decided to permanently cease principal activities at the entire site or in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with these regulations; or,
- (B) No principal activities under the license have been conducted for a period of 24 months; or,
- (C) No principal activities have been conducted for a period of 24 months in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with these regulations.

(4) From the date of notification of the Department required in subdivision (1) and (2) of this section, the licensee shall either:

- (A) Begin decommissioning activities; or

- (B) Within 12 months of notification submit a decommissioning plan, if required by subsection (b) of this section, and begin decommissioning upon Department approval of that plan.

(5) The Department may approve an alternate schedule for the submission of plans and for the completion of decommissioning as required pursuant to subdivision (1) and (2) of this section if the Department determines that the alternate schedule (1) is necessary to effectively conduct decommissioning, (2) presents no undue risks to public health and safety, and (3) is otherwise in the public interest. The schedule for decommissioning may not commence until the Department has made a determination on the request.

(c) Decommissioning Plan.

(1) A licensee must submit a decommissioning plan: if the licensee intends to terminate the license using radiological criteria specified in subdivision (f) of this section or subdivision (g) of this section; if otherwise required by these regulations; if required by license condition; or if the procedures and activities necessary to carry out decommissioning of the site or separate building or outdoor area have not been previously approved by the Department and these procedures could increase potential health and safety impacts to workers or to the public, such as in any of the following cases:

- (A) Procedures would involve techniques not applied routinely during cleanup or maintenance operations;
- (B) Workers would be entering areas not normally occupied where surface contamination and radiation levels are significantly higher than routinely encountered during the operation for which the license was issued;
- (C) Procedures could result in significantly greater airborne concentrations of radioactive materials than are present during operation; or,
- (D) Procedures could result in significantly greater releases of radioactive material to the environment than those associated with the operation for which the license was issued.

(2) Procedures with potential health and safety impacts may not be carried out prior to approval of the decommissioning plan.

(3) The proposed decommissioning plan for the facility or site (or separate building or outdoor area) must include:

- (A) A description of the conditions of the facility or site sufficient to evaluate the acceptability of the plan;
- (B) A description of planned decommissioning activities;
- (C) A description of methods used to ensure protection of workers and the environment against radiation hazards during decommissioning;

- (D) A description of the radiation survey planned to demonstrate compliance with subsection (d)(4) and subsection (e)(1) of this section (or if applicable, subdivision (f) of this section or subdivision (g) of this section); and,
- (E) An updated detailed cost estimate for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and a plan for assuring the availability of adequate funds for completion of decommissioning.

(4) For decommissioning plans calling for completion of decommissioning later than 24 months after plan approval, the plan shall include a justification for the delay. The proposed decommissioning plan will be approved by the Department if the information therein demonstrates that the decommissioning will be completed as soon as practicable and that the health and safety of workers and the public will be adequately protected.

(c) Completion of Decommissioning.

(1) The licensee shall complete decommissioning of the facility or site as soon as practicable but no later than 24 months following the initiation of decommissioning, unless an alternate schedule addressing the factors in subdivision (3) of this section is requested with written justification and approved by the Department.

(2) When decommissioning involves the entire site, the licensee shall request license termination upon completion of decommissioning activities.

(3) For decommissioning plans calling for completion of decommissioning later than 24 months after plan approval, the plan shall include a justification for the decommissioning schedule warranted by consideration of the following:

- (A) Whether it is technically feasible to complete decommissioning within the allotted 24-month period;
- (B) Whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted 24-month period;
- (C) Whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay;
- (D) Whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and,
- (E) Other site-specific factors which the Department may consider appropriate on a case-by-case basis, such as the regulatory requirements of other government agencies, lawsuits, groundwater treatment activities, monitored natural ground-water restoration, actions that

could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.

- (4) As the final step in decommissioning, the licensee shall:
- (A) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey unless the licensee demonstrates that the premises are suitable for release in some other manner. The licensee shall, as appropriate:
 - (i) Report levels of gamma radiation in units of millisieverts (or microroentgens) per hour at one meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of megabecquerels (or disintegrations per minute or microcuries) per 100 square centimeters - removable and fixed - for surfaces, megabecquerels (or microcuries) per milliliter for water, and becquerels (or picocuries) per gram for solids such as soils or concrete; and,
 - (ii) Specify the survey instrument(s) used and certify that each instrument is properly calibrated and tested.
 - (B) Certify the disposition of all licensed material including accumulated wastes, by submitting a completed Department Form T (Attachment A) or equivalent information.
- (d) Termination of a License Without Restriction.**
- (1) A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 0.19 millisievert (19 mrem) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.
- (2) Licenses or registrations will be terminated upon written notice to the licensee when the Department determines that:
- (A) Radioactive material has been properly disposed;
 - (B) Reasonable effort has been made to eliminate residual radioactive contamination, if present; and;
 - (C) Documentation is provided to the Department that:
 - (i) A radiation survey has been performed which demonstrates that the premises are suitable for release in accordance with Department requirements; or
 - (ii) Other information submitted by the licensee is sufficient to demonstrate that the

premises are suitable for release in accordance with Department requirements.

(f) License Termination Under Restricted Conditions. No decommissioning plan for restricted use shall be accepted by the Department unless it can be demonstrated that the requirements in subsection (d) of this section cannot be met. A site will be considered acceptable for license termination under restricted conditions if:

(1) The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of subsection (e)(1) of this section would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination of the levels which are ALARA must take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal; and

(2) The licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 0.19 millisievert (19 mrem) per year, including that from groundwater sources of drinking water; and

(3) The licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. Acceptable financial assurance mechanisms are:

(A) Funds placed into an account segregated from the licensee's assets and outside the licensee's administrative control as described in 10 CFR 30.35(f)(1);

(B) Surety method, insurance, or other guarantee method as described in 10 CFR 30.35(f)(2);

(C) A statement of intent in the case of Federal, State, or local Government licensees, as described in 10 CFR 30.35(f)(4); or

(D) When a governmental entity is assuming custody and ownership of a site, an arrangement that is deemed acceptable by such governmental entity; and

(4) The licensee has submitted a decommissioning plan to the Department indicating the licensee's intent to decommission in accordance with section 22a-153-9 and specifying that the licensee intends to decommission by restricting use of the site. The licensee shall document in the decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice;

(A) Licensees proposing to decommission by restricting use of the site shall seek advice from such affected parties regarding the following matters concerning the proposed decommissioning:

(i) Whether provisions for institutional controls proposed by the licensee:

- (a) Will provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed the applicable limit in section 22a-153-2 of these regulations; and
 - (b) Will be enforceable; and
 - (c) Will not impose undue burdens on the local community or other affected parties; and
- (ii) Whether the licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site; and
- (B) In seeking advice on the issues identified in subdivision (f)(4)(A) of this section., the licensee shall provide for:
 - (i) Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;
 - (ii) An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and
 - (iii) A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues; and
- (5) Residual radioactivity at the site has been reduced so that if the institutional controls were no longer in effect, there is reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group is as low as reasonably achievable and would not exceed either:
 - (A) 1 millisievert (100 mrem) per year; or
 - (B) 5 millisievert (500 mrem) per year provided the licensee:
 - (i) Demonstrates that further reductions in residual radioactivity necessary to comply with the 1 millisievert/year (100 mrem/y) value of subdivision (f)(5)(A) of this section are not technically achievable, would be prohibitively expensive, or would result in net public or environmental harm;
 - (ii) Makes provisions for durable institutional controls; and
 - (iii) Provides sufficient financial assurance to enable a responsible government entity or independent third party, including a governmental custodian of a site, both to

carry out periodic rechecks of the site no less frequently than every 5 years to assure that the institutional controls remain in place as necessary to meet the criteria of subdivision (f)(2) of this section and to assume and carry out responsibilities for any necessary control and maintenance of those controls. Acceptable financial assurance mechanisms are those in subdivision (f)(3).

(g) Alternate Criteria for License Termination.

(1) The Department may terminate a license using alternate criteria greater than the dose criteria of subsection (f)(2) of this section and subsection (f)(4)(A)(i)(a) of this section, if the licensee:

- (A) Provides assurance that public health and safety would continue to be protected, and that it is unlikely that the dose from all man-made sources combined, other than medical, could be more than the 1 millisievert/year (100 mrem/y) limit of section 22a-153-2 of these regulations, by submitting an analysis of possible sources of exposure; and
- (B) Has employed, to the extent practical, restrictions on site use according to the provisions of subsection (f) of this section in minimizing exposures at the site; and
- (C) Reduces doses to ALARA levels, taking into consideration any detriments such as traffic accidents expected to potentially result from decontamination and waste disposal; and
- (D) Has submitted a decommissioning plan to the Department indicating the licensee's intent to decommission in accordance section 22a-153-9 and specifying that the licensee proposes to decommission by use of alternate criteria. The licensee shall document in the decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and addressed, as appropriate, following analysis of that advice. In seeking such advice, the licensee shall provide for:
 - (i) Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;
 - (ii) An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and
 - (iii) A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues.

(2) The use of alternate criteria to terminate a license requires the approval of the Department after consideration of the staff's recommendations that will address any comments provided by federal, state and local governments and any public comments submitted pursuant to subsection (h) of this section.

(h) Public Notification and Public Participation. Upon the receipt of a decommissioning plan

from the licensee, or a proposal by the licensee for release of a site pursuant to subsection (f) or (g) of this section, or whenever the Department deems such notice to be in the public interest, the Department shall:

- (1) Notify and solicit comments from:
 - (A) Local and state governments in the vicinity of the site and any Indian Nation or other indigenous people that have treaty or statutory rights that could be affected by the decommissioning; and
 - (B) The Environmental Protection Agency for cases where the licensee proposes to release a site pursuant to subsection (g) of this section.
- (2) Publish a notice in a forum, such as local newspapers, letters to state or local organizations, or other appropriate forum, that is readily accessible to individuals in the vicinity of the site, and solicit comments from affected parties.
- (i) **Applicability of Decommissioning Criteria Following License Termination.** After a site has been decommissioned and the license terminated in accordance with the criteria in section 22a-153-9, the Department will require additional cleanup only if, based on new information, it determines that the criteria of this Part were not met and residual radioactivity remaining at the site could result in significant threat to public health and safety.

Statement of Purpose: This Part provides for removing safely from service a facility or site having radioactive material, a radiation-producing or radioactivity-inducing machine.